REMARKS / DISCUSSION OF ISSUES

Claims 1-6 are pending in this Application.

Claims 3, 4 and 6 are rejected under 35 USC §112, second paragraph. Claims 3, 4 and 6 have been amended and no longer stand rejected. Claim 7 has been added and now includes a feature of claim 4 which has been deleted.

Claims 1 and 3 are rejected under 35 USC §102(b) as being anticipated by US Patent 6,144,152 to van der Voort ("Voort")

Claim 1 is directed to a low-pressure mercury discharge lamp comprising an envelope with an inner surface enclosing a discharge space in which a mercury comprising filling is accommodated, at least one electrode for generating ultraviolet radiation in said discharge space, and a phosphor layer formed over said inner surface to convert said ultraviolet radiation into light to provide a light output of 3600 lumens at an operation life of 100 h of the green wavelength region, wherein said phosphor layer consists of a water-dispersable blend of a yellow-green phosphor and a blue-green phosphor.

Voort discloses a lamp vessel provided with a luminescent screen including a first luminescent substance which emits predominantly between 520 nm and 565 nm, a second luminescent substance which emits predominantly between 590 nm and 630 nm, and a third luminescent substance which emits predominantly in the range between 615 nm and 780 nm. (Abstract). Good results have been achieved with the third luminescent substance having its emission predominantly in the range between 615 nm and 700 nm (col. 2, lines 49-52). In addition to requirements to be met by the luminescent layer in connection with properties relating to the color temperature of the light emitted by the lamp and the color rendition, the luminescent layer must also comprise substances which, upon excitation by ultraviolet radiation generated in a low-pressure mercury discharge, yield a high luminous flux and which maintain this high luminous flux during the service life of the lamp. (col. 1, lines 58-65).

Applicants' invention discloses a phosphor layer formed to convert ultraviolet light in light to promote a light output of at least 3600 lumens of the green wavelength region. By contrast, Voort discloses the use of a first luminescent substance which emits predominantly between 520 nm and 565 nm, a second luminescent substance which emits predominantly between 590 nm and 630 nm, and a third luminescent substance which emits predominantly in the range between 615 nm and 780 nm to achieve good results and to achieve a high luminous flux, the luminescent layer must also comprise substances which, upon excitation by ultraviolet radiation generated in a low-pressure mercury discharge, yield a high luminous flux and which maintain this high luminous flux during the service life of the lamp. Applicants' invention does not require the features disclosed by Voort to achieve a luminous flux of 3600 lumens. Furthermore, claim 1 has been amended to recite "a light output of 3600 lumens at an operation life of 100 h", a feature which is not disclosed in Voort. Therefore, claim 1 is not anticipated by Voort. Claim 3 incorporates all the limitations of claim 1 and is therefore not anticipated by Voort.

Claims 4 and 6 are rejected under 35 USC 103(a) as being unpatentable over Voort.

As to claim 4, the Examiner is stating that Voort fails to exemplify the low pressure mercury discharge lamp wherein the weight ratio to yellow-green phosphor to blue-green phosphor is from 90:10 to 10:90. As to claim 6, the Examiner is stating that Voort fails to exemplify a process with the weight ratios of the phosphor in the blend of Applicants' invention.

Voort teaches away from Applicants' invention by disclosing that good results have been achieved with the third luminescent substance having its emission predominantly in the range between 615 nm and 700 nm. (col. 2, lines 49-52) and in addition to requirements to be met by the luminescent layer in connection with properties relating to the color temperature of the light emitted by the lamp and the color rendition, the luminescent layer must also comprise substances which, upon

excitation by ultraviolet radiation generated in a low-pressure mercury discharge, yield a high luminous flux and which maintain this high luminous flux during the service life of the lamp. (col. 1, lines 58-65). Therefore, a person skilled in the art would not look to Voort to solve the problem of Applicants' invention. Therefore, claim 4 and claim 6 are not rendered obvious by Voort.

Claim 2 is rejected under 35 USC §103 as being unpatentable over Voort in view of US Patent No. 5,612,590 to Trushell et al ("Trushell).

Claim 2 has been canceled rendering this rejection moot.

Claim 5 is rejected under 35 USC 103 as being unpatentable over Voort in view of US Patent No. 6,489,716 to Tews et al ("Tews").

Claim 5 discloses a process for the preparation of a low-pressure mercury discharge lamp having green emission, comprising the application of a green-emitting phosphor layer on the inner surface of the envelope enclosing the discharge space of the lamp, wherein an aqueous suspension of a blend of a yellow-green phosphor and a blue-green phosphor is deposited on the inner surface, followed by drying to obtain a coating of a green phosphor layer on said inner surface.

As stated by the Examiner, Voort fails to disclose the process of claim 5.

Tews discloses that application of a phosphor layer to the inner wall of the lamp bulb is generally effected by the phosphor or the phosphor mixture being dispersed in a viscous medium, which comprises an organic binder such as e.g. hydroxyethyl cellulose or polyox and a solvent. The phosphor suspension is distributed on the glass bulb to produce a uniform film which is dried, while heat is supplied and air is introduced, by evaporation of the solvent, generally water. The organic constituents of the binder are removed in a burn-out process by brief heating of the phosphor-coated glass bulb with the introduction of air or oxygen to at most 660.degree. (col. 6, lines 26-38).

By contrast with Tews, the process of Applicants' invention requires the deposition of an aqueous suspension of a phosphor blend while the process disclosed by Tews involves to utilization of a phosphor suspension with an organic binder and a solvent. Therefore, a person skilled in the art would not look to Tews to remedy the deficiencies of Voort and claim 5 is not rendered obvious by Voort in view of Tews.

If any points remain in issue that may best be resolved through a personal or telephonic interview, the Examiner is respectfully requested to contact Eric Bram at (914) 333-9635.

Respectfully submitted,

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